EXHIBIT C

ATTORNEY DOCKET NO. <u>SKY02 005 US</u>

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Patent Application of Yaron, <u>et al.</u>

Serial No.: 09/258,663   Art Unit: 2671

Filed: February 26, 1999   Examiner: L. Sealey

Title: REMOTE LANDSCAPE DISPLAY AND PILOT TRAINING

<u>AMENDMENT</u>

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The Honorable Commissioner
 of Patents and Trademarks
Washington, D.C. 20231

Sir:

Responsive to the Final Office Action dated November 27, 2001, please amend the

subject application as follows

<u>In the Claims:</u>

Please cancel Claims 1, 2, 5, 6, 31, 32, 35 and 36, without prejudice.

Please amend claims: 3, 7, 8, 9, 11, 15, 33, 34, 37, 38, 39, 41, 45, 57 and 58.

3. (Amended) A method of providing data blocks describing three-dimensional

terrain to a renderer, the data blocks belonging to a hierarchical structure which includes

blocks at a plurality of different resolution levels, the method comprising:

receiving from the renderer one or more coordinates in the terrain along with

indication of a respective resolution level;

providing the renderer with a first data block which includes data corresponding to the one or more coordinates, from a local memory;

C1
Cnl

downloading from a remote server one or more additional data blocks at a resolution level higher than the resolution level of the first block which include data corresponding to the one or more coordinates if the provided block from the local memory is not at the indicated resolution level.

3.
7.   (Amended) A method of providing data blocks describing three-dimensional terrain to a renderer, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the method comprising:

receiving from the renderer a plurality of coordinates in the terrain along with indication of a respective resolution level; said plurality of coordinates being included in a plurality of respective distinct blocks;

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providing the renderer with first data block which includes data corresponding to at least some of the plurality of coordinates from a local memory;

downloading from a remote server one or more additional blocks which include data corresponding to a plurality of respective distinct blocks if the provided block from the local memory is not at the indicated resolution level, wherein blocks of lower resolution levels are downloaded before blocks of higher resolution levels.

4.
8.   (Amended) A method of providing data blocks describing three-dimensional terrain to a renderer, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the method comprising:

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receiving from the renderer a plurality of coordinates in the terrain along with indication of a respective resolution level; said plurality of coordinates being included in a plurality of respective distinct blocks;

providing the renderer with first data block which includes data corresponding to at least some of the plurality of coordinates from a local memory;

downloading from a remote server one or more additional blocks which include data corresponding to a plurality of respective distinct blocks if the provided block from the local memory is not at the indicated resolution level, wherein of lower resolution levels are downloaded before blocks of higher resolution levels and the block for which the coordinates were provided last among blocks at a common resolution level is downloaded first.

5.
~~3~~.   (Amended) A method of providing data blocks describing three-dimensional terrain to a renderer, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the method comprising:

receiving from the renderer a plurality of coordinates in the terrain along with indication of a respective resolution level; said plurality of coordinates being included in a plurality of respective distinct blocks;

providing the renderer with first data block which includes data corresponding to at least some of the plurality of coordinates from a local memory;

downloading from a remote server one or more additional blocks which include data corresponding to a plurality of respective distinct blocks if the provided block from

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the local memory is not at the indicated resolution level, wherein the blocks are downloaded according to the order in which the coordinates were provided.

7.
N. (Amended) A method of providing data blocks describing three-dimensional terrain to a renderer, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the method comprising:

receiving from the renderer one or more coordinates in the terrain along with indication of a respective resolution level;

providing the renderer with a first data block which includes data corresponding to the one or more coordinates, from a local memory;

downloading from a remoter server one or more additional data blocks which include data corresponding to the one or more coordinates if the provided block from the local memory is not at the indicated resolution level; and

downloading from a remote server excess blocks not currently needed by the renderer to fill up the local memory when not downloading blocks required by the renderer.

8.
N. (Amended) A method according to claim N, wherein downloading the data blocks comprised downloading the blocks via the Internet.

12.
33. (Amended) Apparatus for providing data blocks describing three-dimensional terrain to a render, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the apparatus comprising:

a local memory which stores data blocks corresponding to coordinates proximal to a current viewpoint of the renderer;

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a communication link, through which the memory receives the data blocks from a remote server;

a processor which receives one or more specified coordinates along with indication of a respective resolution level from a renderer, provides the renderer with a first data block which includes data corresponding to the one or more specified coordinates from a local memory, and downloads over the communication link one or more data blocks of a resolution level higher than the resolution level of the first block which include data corresponding to the one or more coordinates if the first block is not from the indicated level.

13.

34. (Amended) Apparatus for providing data blocks describing three-dimensional terrain to a render, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the apparatus comprising:

a local memory which stores data blocks corresponding to coordinates proximal to a current viewpoint of the renderer;

a communication link, through which the memory receives the data blocks from a remote server;

a processor which receives one or more specified coordinates along with indication of a respective resolution level from a renderer, provides the renderer with a first data block which includes data corresponding to the one or more specified coordinates from a local memory, and downloads over the communication link blocks from the resolution level of the first block up to a maximal resolution level of blocks stored on the server that is not above the indicated resolution level which include data

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corresponding to the one or more coordinates if the first block is not from the indicated level.

37. (Amended) Apparatus for providing data blocks describing three-dimensional terrain to a render, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the apparatus comprising:

a local memory which stores data blocks corresponding to coordinates proximal to a current viewpoint of the renderer;

a communication link, through which the memory receives the data blocks from a remote server;

a processor which receives one or more specified coordinates along with indication of a respective resolution level from a renderer, provides the renderer with a first data block which includes data corresponding to the one or more specified coordinates from a local memory, and downloads over the communication link blocks of lower resolution levels before blocks of higher resolution levels which include data corresponding to the one or coordinates if the first block is not from the indicated level.

38. (Amended) Apparatus for providing data blocks describing three-dimensional terrain to a render, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the apparatus comprising:

a local memory which stores data blocks corresponding to coordinates proximal to a current viewpoint of the renderer;

a communication link, through which the memory receives the data blocks from a

remote server;

a processor which receives one or more specified coordinates along with

indication of a respective resolution level from a renderer, provides the renderer with a

first data block which includes data corresponding to the one or more specified

coordinates from a local memory, and downloads over the communication link blocks

which include data corresponding to the one or coordinates if the first block is not from

the indicated level, wherein the processor downloads blocks of lower resolution levels

before blocks of higher resolution levels and the block for which the coordinates were

provided last among blocks from a common resolution level is downloaded first.

16.
3S̶ .   (Amended) Apparatus for providing data blocks describing three-

dimensional terrain to a render, the data blocks belonging to a hierarchical structure

which includes blocks at a plurality of different resolution levels, the apparatus

comprising:

a local memory which stores data blocks corresponding to coordinates proximal to

a current viewpoint of the renderer;

a communication link, through which the memory receives the data blocks from a

remote server;

a processor which receives one or more specified coordinates along with

indication of a respective resolution level from a renderer, provides the renderer with a

first data block which includes data corresponding to the one or more specified

coordinates from a local memory, and downloads over the communication link one or

more additional blocks according to the order in which the coordinates were provided which include data corresponding to the one or more coordinates if the first block is not from the indicated level.

41. (Amended) Apparatus for providing data blocks describing three-dimensional terrain to a render, the data blocks belonging to a hierarchical structure which includes blocks at a plurality of different resolution levels, the apparatus comprising:

a local memory which stores data blocks corresponding to coordinates proximal to a current viewpoint of the renderer;

a communication link, through which the memory receives the data blocks from a remote server;

a processor which receives one or more specified coordinates along with indication of a respective resolution level from a renderer, provides the renderer with a first data block which includes data corresponding to the one or more specified coordinates from a local memory, downloads over the communication link blocks which include data corresponding to the one or coordinates if the first block is not from the indicated level; and downloads excess blocks not currently needed by the renderer to fill up the local memory when the processor is not downloading blocks required by the renderer.

45. (Amended) Apparatus according to claim 41, wherein the communication link comprises a connection to the internet.

~~57.~~ **57.** (Amended) The method of Claim ~~37~~ 7, wherein the coordinates relate to the

coordinates of a predetermined course of a flight vehicle.

C8   ~~58.~~ **58.** (Amended) The apparatus of Claim ~~41~~ 18, wherein said data blocks relate to a course

of a flight vehicle.

<div align="center">REMARKS</div>

All changes made by this amendment are shown in Exhibit A included herewith.

Applicant has amended allowable independent Claims 8, 11, 38 and 41 and placed

them in condition for allowance. Claims depending from independent Claims 8, 11, 38

and 41 should be allowed therewith without consideration of the further patentable

limitations respectively recited therein.

§ 102 Rejections:

Claims 1-2, 5-7, 9, 31-32, 35-37 and 39 stand rejected as being anticipated by

Migdal et al. U.S. Patent No. 5,760,783 ("Migdal"). Claims 1, 2, 5, 6, 31, 32, 35 and 36

have been cancelled without prejudice. Claims 7, 9, 37 and 39 remain in the application.

Reconsideration and withdrawal of the rejection is solicited.

Rejected independent Claims 7, 9, 37 and 39 are directed to the order in which

required data blocks are downloaded from a remote server when the local memory does

not have the requisite data block. For example, Claim 7 recites, *inter alia*, "downloading

blocks of lower resolution levels before blocks of higher resolution levels." Claim 9

recites, *inter alia*, "downloading the blocks according to the order in which the

coordinates were provided."

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In rejecting these claims, the examiner cites Migdal column 16, lines 1-21. The relevance of the cited portion of Migdal is not understood, *i.e.*, Migdal discloses how the processor creates the initial data blocks (clip maps) from the larger terrain image (texture map) and the subsequent storage of those data blocks (clip maps) in local memory.

However, Migdal always provides the highest resolution tile first, *e.g.*, "a new texel row 601 located forward of the eyepoint is loaded from mass storage device 208 into the highest resolution tile 410 into texture memory." (col. 11, lines 14-16) Migdal does not disclose downloading blocks in the order in which their coordinates were provided, nor downloading blocks of lower resolution before those of higher resolution. Withdrawal of the rejection is solicited.

§ 103 Rejections:

Claims 3, 4, 10, 33, 34 and 40 stand rejected as obvious over Migdal in view of the holding stated in *In re Gazda*, 104 U.S.P.Q. 400 ("*Gazda*"). Reconsideration and withdrawal of the rejections is solicited.

It is important at the outset to appreciate that *Gazda* is 1955 decision of the CCPA under an earlier patent statute and long before the controlling decision in *John Deere*. To the extent inconsistent with John Deere, Gazda has been overruled. Assuming consistency, and ignoring the language differences, the Court in *Gazda* identified the differences between the claimed invention and the prior art and determined that those differences were obvious, i.e. the court held that the specific structure before it [i.e., the mounting of a clock alternatively on the steering wheel or on the steering wheel post] was

"a mere reversal of parts." (104 U.S.P.Q at 402). In other words, the Court applied the law of obviousness to the facts of that particular case and held that a "mere reversal of [the specific] parts" was obvious and hence not patentable. The Court did not hold, and could not have held, that all reversals of parts were obvious. The Court in Gazda did not hold that the present facts constitute a "reversal of parts" and certainly not that the reversal was a "mere" reversal.

Here, the differences are significant and not **mere** reversals. Claim 9, for example, requires that the order in which blocks are downloaded is a function of the order in which coordinates were provided, and Migdal makes no such disclosure. Claim 7, for example, requires that the order is from the lowest resolution to the highest resolution. Migdal expressly teaches away from this order, and no factual basis for the assumption that this important difference is obvious has been proffered by the examiner. "The mere fact that a worker in the art could rearrange the parts of the reference device to meet the terms of the claims on appeal is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for the worker in the art, without the benefit of appellant's specification, to make the necessary changes in the reference device." *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). The examiner has not made the proper analysis and the rejection is thus improper.
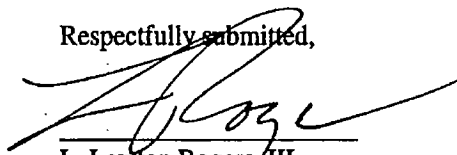
Claims 15, 18 and 45 stand rejected as obvious over Migdal in view of Migdal et al. U.S. Patent No. 5,886,702 ("Migdal '702"). Claim 18 was cancelled without prejudice in Applicant's Amendment dated October 4, 2001. Claims 15 and 45 depend

respectively from allowable Claims 11 and 41 and should be allowed therewith without

consideration of the additional patentable limitations respectively recited therein.

Claims 57 and 58 stand rejected as obvious over Migdal in view of O'Neill, but

depend from allowed claims and should be allowed therewith without recourse to the

additional and patentable limitations recited. For example, both Claims 57 and 58 require

that the data blocks or coordinates of a terrain image relate to the course of a flight

vehicle. The Examiner agrees that such limitation is not provided in any of the

previously cited art. (Office Action, page 7), but asserts that the limitation is disclosed in

O'Neill at column 56, lines 3-8 and lines 12-25. Since O'Neill teaches a system for

determining the location of flight vehicles travelling above the earth, and since the

coordinates of the flight path are known, the relevance of O'Neill to the claims is not

understood. Saying it another way, the current application is not concerned with the

coordinates of a vehicle, but how to portray the terrain image from different coordinates.

Reconsideration and withdrawal of the rejections is accordingly solicited.

Respectfully submitted,

L. Lawton Rogers, III
Reg. No. 24,302
D. Joseph English
Reg. No. 42,514
Mark C. Comtois
Reg. No. 46,285
Patrick D. McPherson
Reg. No. 46,255

1667 K Street, N.W., Suite 700
Washington, DC 20006
Telephone: (202) 776-7800
Telecopier: (202) 776-7801

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